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Primary care in a post-communist country 10 years later Comparison of service profiles of Lithuanian primary care physicians in 1994 and GPs in 2004

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Abstract

Objectives: The study aimed, firstly, to assess changes in the service profile of primary care physicians between 1994, when features of the Soviet health system prevailed, and 2004, when retraining of GPs was completed. Secondly, to compare service profiles among current GPs, taking into account their positions before being retrained.

Methods: A cross-sectional repeated measures study was conducted among district therapists and district pediatricians in 1994 and GPs in 2004. A questionnaire was used containing identical items on the physicians' involvement in curative and preventive services. The response rates in both years were 87% and 73%, respectively.

Results: In 2004, physicians had much more office contacts with patients than in 1994. Modest progress was made with the provision of technical procedures. Involvement in disease management was also stronger in 2004 than in 1994, particularly among former pediatricians. Involvement in screening activities remained stable among former therapists and increased among former pediatricians. At present, GPs who used to be therapists provide a broader range of services than ex pediatricians. GPs from the residency programme hold an intermediate position.

Conclusions: Lithuanian GPs have taken up new tasks but variation can be reduced. The health care system is still in the midst of transition.

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Keywords: Primary health care; Family practice; Eastern Europe; Evaluation studies; Health care reform

1. Introduction

Lithuania's independence in 1990 marked a new era with drastic changes affecting all sectors of society, including health care. The inefficient and poorly maintained Soviet health care system started to be

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Old situation		New situation
Financing and provision by the state	→	Social health insurance system with de-centralized provision (municipalities)
Physicians state employed	→	Mix of public and private practice
Emphasis on specialist services in large urban units; usually outdated and poorly equipped	→	Provision based on primary care organized in smaller renovated units
Most primary care services provided by various 'narrow' specialists	→	Primary care services provided by family doctors (GPs) holding a gatekeeping position
Medical education for primary care based on internal medicine	→	New residency programmes for GPs (in new departments of Family Medicine)
District physicians (separate for adults and children) with main tasks in medical administration and routine check ups	→	1700 former district physicians retrained to be GPs in primary care centres and practices

Scheme 1. Changes in post-communist health care reform in Lithuania.

transformed into a social health insurance system with provision based on primary care. Large numbers of physicians were trained for new roles in primary care. This article evaluates changes between 1994 and 2004 in the provision of specific curative and preventive tasks by Lithuanian primary care physicians. Service profiles of GPs in 2004 will be related to the positions they held in 1994 before they were re-trained.

1.1. Context of the health care reform

In the centralized Soviet health system physicians were state employees and provision was specialist oriented [1]. First line physicians, both district therapists trained in internal medicine and district pediatricians specialized in child care, worked in the community and were mainly involved in preventive routines and administrative duties, like sickness certification [2]. Curative services were mostly provided by directly accessible medical specialists in polyclinics, usually located in cities. Rural health centres (ambulatories), provided a limited set of health services. So the principle of equal access to health care was not materialized [3–5]. Other imperfections of the system were bureaucracy, lack of

efficiency and poor coordination and continuity as a result of strict centralism and a hierarchical approach [6]. This situation worsened due to the abominable state of the Soviet economy, resulting in arrears and outdated facilities [4,5]. Like Estonia, Lithuania belonged to the early adopters of a pro-primary care policy [7,8].

Scheme 1 summarizes relevant changes in the health reforms of the 1990s in Lithuania.

The adoption in 1991 by the Lithuanian Parliament of the National Health Care System Conception resulted in the establishment of a statutory health insurance fund (the State Patient Fund) [9]. From 1996 the relationship between financiers and providers was set by contracts. Decentralisation resulted in municipalities governing ambulatories, health centres (de-concentrated former polyclinics) and part of the hospitals. Patient centeredness and primary care were strengthened by the introduction of specially trained GPs as personal doctors in a gatekeeping position, working either in public or private practice and paid capitation fees [8,10,11]. At two new departments of Family Medicine a residency programme was developed [12]. World Bank projects have helped to modernize health facilities and to create new smaller

scale centres. As intended, by 2005 almost all previous district therapists and pediatricians were retrained and most of them were working as GPs. With an average of 1600 patients per GP, the country needs about 2200 GPs. This number has almost been achieved and consists for about three quarters of retrained district therapists and pediatricians and one quarter of GPs from the residency programme. Between 1998 and 2004 the total number of primary care centres doubled to 432; 149 of which being private [13].

1.2. Aim and questions of the study

The study aimed to assess changes in the service profile of primary care physicians between 1994, when then old system was still dominant, and 2004. Policy measures were intended to strengthen the capacity of primary care and to transfer tasks from specialists to GPs. So, GPs were expected to provide more services and have more patient contacts than district therapists and pediatricians did. A higher workload may result in a relative shift from home visits to office contacts. Compared to 1994 more tasks considered in this study would be adopted by GPs in 2004. In particular, a higher involvement of GPs is expected in the provision of medical procedure tasks (such as minor surgery) and disease management. Regarding preventive tasks, it is difficult to formulate clear *a priori* expectations. The Soviet system used to be strongly focused on collective prevention [1], but in the absence of current incentives for prevention an increase in curative work may just as well be at the expense of preventive services. Based on these goals and expectations the following research questions have been formulated:

- Do GPs in 2004 have more patient contacts than district therapists and district pediatricians in 1994?
- Are GPs in 2004 more involved in the provision of specific curative and preventive services than district therapists and district pediatricians in 1994?
- Do GPs, who used to be district therapists, still differ in their task profile and in the number of patient contacts, from GPs who used to be district pediatricians?
- Have GPs who graduated from the new residency programme different task profiles and a different number of patient contacts than re-trained physicians?

2. Materials and methods

2.1. The questionnaire

The repeated cross-sectional study is based on a questionnaire completed by samples of district therapists and district pediatricians in 1994 and GPs in 2004. In both years the questionnaire contained identical questions on the provision of the following services:

- medical technical procedures;
- management and follow up of diseases;
- preventive services and health education.

In these task areas series of short case descriptions were presented. Physicians could answer on a pre-coded scale to which extent they were involved if the case occurs in the practice population. The involvement in the provision of medical procedure tasks was measured by a list of 14 procedures (see Table 2) with answers on a four-point scale ranging from ‘almost always’ to ‘never’. Similarly, the involvement in disease management and follow up was asked by 17 case descriptions (see Table 3). Concerning prevention, GPs could answer not to screen on hypertension and high blood cholesterol, or to do it opportunistically (which is routinely among those at risk visiting the practice), and/or to invite those at risk for the purpose. The last two options were considered systematic screening. Concerning health education GPs could answer not to be involved in smoking cessation, healthy nutrition and problematic alcohol consumption, or doing it in connection with normal patient contacts, and/or in special group sessions or programmes. Here, the last option was considered a systematic approach. Besides, the questionnaire asked about the numbers of office contacts and home visits. More details about the questionnaire have been reported elsewhere [14,15].

2.2. Sampling and recruitment

Both in 1994 and in 2004 respondents have been recruited by a random sampling procedure. In 1994 there were two populations: district therapists and district pediatricians. In 1994 relatively large random samples have been drawn from official lists of medical staff of polyclinics and ambulatories in 15 regions and five cities, well distributed over the country [15]. In 2004, a stratified random sample was drawn from

Table 1

Changes in the number of contacts with patients in primary care between 1994 and 2004

Type of consultations (average number per day)	1994		2004			
	District therapists	District pediatricians	GPs/former district therapists	GPs/former district pediatricians	GPs/newly trained	All GPs
Office contacts (S.D.)	16.3 (4.6)	15.5 (5.7)	25.6 ^a (6.8)	25.8 ^b (6.8)	21.2 ^{c,d} (6.5)	24.6 (7.0)
Home visits (S.D.)	3.1 (1.8)	5.3 (2.5)	2.8 (1.3)	4.3 ^b (2.7)	2.2 ^{c,d} (1.0)	2.8 (1.7)
<i>N</i>	341	222	172	48	72	296

^a *t*-test 2004–1994; GPs/former district therapists—district therapists; level of significance $p \leq 0.05$.^b *t*-test 2004–1994; GPs/former district pediatricians—district pediatricians; level of significance $p \leq 0.05$.^c *t*-test 2004; newly trained GPs—GPs/former district therapists; level of significance $p \leq 0.05$.^d *t*-test 2004; newly trained GPs—GPs/former district pediatricians; level of significance $p \leq 0.05$.

a register held by the State Patient Fund. Two strata were used: the degree of urbanisation of the practice location and private or public practice. To allow for the planned analyses, the aim was to achieve a response of 250 completed questionnaires. With an estimated response rate of about 60% the sample size was set at 410. In 1994 the response amounted 363 completed questionnaires from district therapists (94.5%) and 232 from district pediatricians (77.1%), which was a correct representation of the study population in terms of age and sex distribution [15]. In 2004, an intensive follow up by telephone resulted in a satisfactory response of 298 completed questionnaires (72.7%). The response consisted of 15% of the total population of GPs in the country. The gender distribution in the response (85.3% female GPs) was almost identical to the one in the population (84.6% female GPs). Data for comparison on other parameters were not available.

2.3. Statistical analysis

Data entry, processing and analyses were carried out using SPSS software. The construction of variables and scaling procedures were the same for both surveys. Task profiles of physicians in 1994 and 2004 have been compared at items level. Besides, items in the task domains ‘medical technical procedures’ and ‘management of diseases’ have been subjected to a scaling analysis. Items where skewness was evident (85% or more positive or negative answers) were excluded. Reliability of both scales was satisfactory, given by Cronbach’s α of 0.89 and 0.88, respectively. Outcome of the scaling procedure were scores for each task domain. Details on the statistical procedures used with

1994 data have previously been reported [15]. Differences between 1994 and 2004 and between subgroups in 2004 have been tested by means of *t*-test.

3. Results

In the tables, results have been broken down by the type of physician. In 1994 these were: district therapists and district pediatricians. In 2004 we distinguished three subgroups of GPs: those who used to be district therapists and district pediatricians, respectively and those graduated from the residency programme.

3.1. Office contacts and home visits

The number of reported office contacts increased strongly from 16 in 1994 to almost 25 in 2004 (Table 1). This change is equal among former therapists and former pediatricians. The number of office contacts reported by newly trained GPs was slightly lower than the number of office contacts of their re-trained colleagues. The reported number of home visits decreased marginally; this is only significant in the group of former pediatricians.

3.2. Application of the medical technical procedures

Table 2 shows that both groups of GPs reported a significant increase of their involvement in the provision of technical procedures. Nevertheless, a total score in 2004 of 1.44 is relatively low on the scale with a maximum of 4. The 10 years increase was higher among former therapists than among former

Table 2
Changes in the application of medical technical procedures in primary care between 1994 and 2004

Medical procedure tasks	% always or usually involved					
	1994		2004			
	District therapists	District pediatricians	GPs/former district therapists	GPs/former district pediatricians	GPs/newly trained	All GPs
Wedge resection of ingrown toenail	4.2	4.5	13.1 ^a	8.2	2.7 ^{c,d}	9.7
Removal of sebaceous cyst (from hairy scalp)	1.7	2.7	6.9 ^a	2.0	1.3 ^c	4.7
Wound suturing	5.6	6.9	20.0 ^a	12.2	8.0 ^c	15.7
Excision of warts	1.3	1.0	6.3 ^a	4.1	0.0 ^c	4.3
Insertion of IUD	3.9	1.0	13.1 ^a	4.1	14.7 ^d	12.0
Removal of rusty spot from cornea	0.9	0.0	2.3	0.0	1.3	1.7
Fundoscopy	5.6	7.4	31.4 ^a	20.4 ^b	20.0	26.8
Joint injection	3.9	5.8	8.0	4.1	2.7	6.0
Maxillary (sinus) puncture ^e	2.7	0.0	1.1	2.0	0.0	1.0
Myringotomy of eardrum (paracentesis) ^e	1.4	4.1	1.1	2.0	0.0	1.0
Applying a plaster cast ^e	3.5	8.6	10.9 ^a	12.2	2.7 ^c	9.0
Strapping an ankle	7.3	6.6	43.2 ^a	32.7 ^b	29.3 ^c	38.0
Cryotherapy (warts)	1.4	1.1	4.0	2.0	1.3	3.0
Setting up an intravenous infusion ^e	19.8	17.1	72.2 ^a	57.1 ^b	57.3 ^c	66.0
Total scale score (range 1–4)	1.10	1.04	1.51 ^a	1.35 ^b	1.36 ^c	1.44
(S.D.)	(0.34)	(0.18)	(0.46)	(0.37)	(0.32)	(0.42)
N ^f	≥ 196	≥ 83	≥ 170	≥ 49	≥ 75	≥ 294

^a *t*-test 2004–1994; GPs/former district therapists—district therapists; level of significance $p \leq 0.05$.

^b *t*-test 2004–1994; GPs/former district pediatricians—district pediatricians; level of significance $p \leq 0.05$.

^c *t*-test 2004; newly trained GPs—GPs/former district therapists; level of significance $p \leq 0.05$.

^d *t*-test 2004; newly trained GPs—GPs/former district pediatricians; level of significance $p \leq 0.05$.

^e Item not included in scaling procedure for total score.

^f Numbers passing the criteria for scaling; numbers with individual items are higher.

pediatricians. Newly trained GPs were on the level of former pediatricians. The item showing the strongest increase was setting up an intravenous infusions, which is regularly performed by two-thirds. No other procedure in the list is reported by a majority of GPs to be always or usually carried out if the occasion occurs. Thirty-eight percent of GPs reported to strap always or usually an ankle in such occasions, and fundoscopy was practised by 27%. Examination of individual procedures confirms the total score: the increase compared to 1994 is higher among former district therapists than among former pediatricians and the former are generally more involved in medical procedure tasks than the latter. Newly trained GPs and former pediatricians hold comparable positions in this respect.

3.3. Management and follow up of diseases

Results show that in 2004 GPs were significantly more involved in disease management than primary

care physicians in 1994 (Table 3). In 2004 GPs/former therapists indicated to be more involved in disease management than GPs/former pediatricians, but the 10 years increase was much stronger among former pediatricians than among former therapists. Here also, newly trained GPs have a position comparable to former pediatricians. Treatment of chronic bronchitis and pneumonia were reported to be regular tasks both in 1994 and 2004. Among GPs/former pediatricians there has been a strong catching up between 1994 and 2004 in the treatment of peptic ulcer, congestive heart failure, diabetes type II and rheumatoid arthritis. Both groups of retrained GPs show large 10 years increases with the treatment of hyperthyroidism, hordeolum, herniated disc lesion, and Parkinson's disease. In 2004 these were reported as regular tasks by about two-thirds to three quarters of GPs. Some other conditions showed significant increases, but the involvement of GPs remained relatively small.

Table 3
Changes in the treatment of diseases in primary care between 1994 and 2004

Diseases treated	% always or usually involved					
	1994		2004			
	District therapists	District pediatricians	GPs/former district therapists	GPs/former district pediatricians	GPs/newly trained	All GPs
Hyperthyroidism	35.0	27.9	82.3 ^a	66.7 ^b	74.7	77.9
Chronic bronchitis ^c	99.4	96.4	99.4	93.8	96.0	97.7
Hordeolum (Stye) ^c	16.3	50.0	72.6 ^a	95.7 ^b	86.7 ^c	79.7
Peptic ulcer ^c	89.4	53.2	95.4 ^a	87.5 ^b	93.3	93.6
Herniated disc lesion	19.1	4.4	68.0 ^a	42.6 ^b	65.3 ^d	63.3
Acute cerebro-vascular accident	38.8	8.6	42.3	31.9 ^b	29.7	37.5
Congestive heart failure	96.1	22.6	97.7	80.9 ^b	94.7 ^d	94.3
Pneumonia ^c	97.4	98.1	98.3	95.8	96.0	97.3
Peritonsillar abscess	12.9	15.0	24.7 ^a	27.1	17.6	23.3
Ulcerative colitis	68.8	23.7	45.7 ^a	26.1	21.3 ^c	36.5
Salpingitis	3.5	0.8	21.7 ^a	17.1 ^b	10.7 ^c	18.2
Concussion of the brain	11.6	20.2	32.8 ^a	27.7	17.3 ^c	28.0
Parkinson's disease	31.8	2.4	81.1 ^a	66.0 ^b	57.3 ^c	72.7
Uncomplicated diabetes type II ^c	78.1	39.3	98.3 ^a	93.6 ^b	98.7	97.6
Rheumatoid arthritis	81.5	43.3	95.4 ^a	87.2 ^b	93.2	93.6
Depression	26.2	11.1	39.1 ^a	33.3 ^b	21.3 ^c	33.7
Myocardial infarction	69.3	3.8	53.7 ^a	40.4 ^b	33.3 ^c	46.5
Total scale score (max = 4)	2.40	1.55	2.71 ^a	2.41 ^b	2.41 ^c	2.59
(S.D.)	(.51)	(.40)	(.50)	(.68)	(.49)	(.55)
N ^f	≥249	≥101	≥169	≥45	≥72	≥286

^a *t*-test 2004–1994; GPs/former district therapists—district therapists; level of significance $p \leq 0.05$.

^b *t*-test 2004–1994; GPs/former district pediatricians—district pediatricians; level of significance $p \leq 0.05$.

^c *t*-test 2004; newly trained GPs—GPs/former district therapists; level of significance $p \leq 0.05$.

^d *t*-test 2004; newly trained GPs—GPs/former district pediatricians; level of significance $p \leq 0.05$.

^e Item not included in scaling procedure.

^f Numbers passing the criteria for scaling; numbers with individual items are higher.

3.4. Screening and health education

Routinely monitoring blood pressure was reported a normal task of district therapists in 1994, but obviously not of district pediatricians (Table 4). Results from 2004 showed it was a regular task for GPs of both backgrounds with residency trained GPs staying somewhat behind. So, former pediatricians have cleared their arrears in this task. Screening on high blood cholesterol still seems to be no general GP task in Lithuania, but the large disparity existing in 1994 between district therapists and pediatricians (related to their different patient populations) has disappeared in 2004 by a strong increase among former pediatricians. Residency trained GPs clearly stay behind both other groups in this screening. Health education, other than in the context of individual patient consultations, was

rarely reported in 1994 and continues to be so 10 years later for all categories.

4. Discussion

Comparison of data from 1994 and 2004 has shown how roles of Lithuanian primary care physicians in the provision of curative and preventive services developed. Moreover, variation in the reported provision of services by GPs in 2004 appeared to be clearly related to the vocational background before being GPs. Quantitative measures show that GPs in 2004 seem to be much busier than primary care physicians 10 years before. Not only do they report to see 60% more patients in their office, the range of services provided to their patients has increased as well. In medical tech-

Table 4
Involvement of GPs in health education and preventive services 1994–2004

Task domains	1994 (%)		2004 (%)			
	District therapists	District pediatricians	GPs/former district therapists	GPs/former district pediatricians	GPs/newly trained	All GPs
Systematic screening on						
High blood pressure	90.6	24.1	88.6	83.7 ^a	76.0	84.7
High blood cholesterol	39.4	8.6	42.0	40.8 ^a	22.7 ^{b,c}	37.0
N	363	232	176	49	75	300
Health education in special sessions/programmes on						
Smoking cessation	6.6	9.7	9.1	8.2	1.3	7.0
Healthy nutrition	7.4	12.1	11.9	8.2	6.7	10.0
Alcohol consumption	7.2	11.3	7.4	10.2	1.3	6.4
N	348	177	175	49	75	299

^a *t*-test 2004–1994; GPs/former district pediatricians—district pediatricians; level of significance $p \leq 0.05$.

^b *t*-test 2004; newly trained GPs—GPs/former district therapists; level of significance $p \leq 0.05$.

^c *t*-test 2004; newly trained GPs—GPs/former district pediatricians; level of significance $p \leq 0.05$.

nical procedures, despite progress made, the overall role of GPs is still modest. GPs who used to be district therapists indicated to be more involved in the application of technical procedures than former pediatricians. Treatment and follow up of diseases is much more a GPs domain, with former district therapists again being more involved. However, change compared to 10 years ago has been much stronger among former pediatricians. The involvement in identified curative tasks as reported by GPs who graduated from the residency programme is below the average. In 1994 screening on hypertension was an important task among district therapists, but obviously not among pediatricians. In 2004 this routine is almost at the same high level among GPs with both backgrounds. To a lesser extent the same difference existed in 1994 with screening on hypercholesterolemia. In 2004 in both groups of GPs this percentage is around 40%. Results of residency trained GPs showed they were less involved in both types of screening than retrained GPs. Finally, health education provided in special sessions or programmes was hardly a task in 1994 and this situation is not different in 2004. Results of this study have not confirmed a decline in preventive services, which has been reported from other transitional countries [16].

A strength of this study has been the repeated measurement, with an interval of well over 10 years. The involvement of district therapists and pediatricians in 1994 and the identification of occupational

backgrounds of GPs in 2004 have provided additional insight in variations of service profiles and changes achieved among subgroups of GPs in Lithuania. The high response rates of the studies have contributed to the quality of results. As the 1994 survey has been part of a European study, comparisons with many other countries can be made for that year.

A methodological weakness is in the use of questionnaires. Self-reported activities may have been biased by professional or health political desirability tendencies. We have tried to reduce such bias by asking detailed factual questions and avoiding to ask opinions. It was stressed that questions focused on border regions of primary care, so that not being involved in activities would not be perceived as deviant. Alternative methods of data collection, such as practice observations, may produce more valid and reliable data, but were not feasible in the 1994 European study. Routine registration of patient contacts would be another option, but it requires the availability of computerised registration networks which are still absent in Lithuania. By choosing for a replication we accepted the limitations.

As regards the state of general practice in Lithuania, results of this study suggest that overall progress has been realised, in particular with disease management tasks. Medical procedure tasks, however, are still not well developed. In 1994 the country ranked 30th and last as for the role of district therapists in the provision of medical procedures, and 26th as for their involve-

ment in disease management. The 2004 results would place Lithuanian GPs 25th and 18th, respectively, in the 1994 ranking. Concerning screening for hypertension or high blood cholesterol district therapists in 1994 were not below the European average and the 2004 results are in the same range. The low involvement of Lithuanian primary care physicians in group-wise health education was true for most other countries in 1994 [14].

In order to value realised changes a number of current imperfections in Lithuanian health care should be taken into account:

- GPs hold a gatekeeping role, but their official task description is still relatively limited [17].
- Incentives are missing to encourage GPs to extend the range of their services [18].
- Some regulations hamper the position of GPs (e.g. particular diagnoses need prior specialist confirmation; prescription of certain medicines reserved for specialists) [19].
- As the establishment of health centres is behind schedule, in some old policlinics GPs still work like district physicians parallel with medical specialists [20].
- A strong specialist tradition prevails and medical specialists still see GPs as competitors [21].

5. Conclusions

Indeed, primary care in Lithuania has become stronger in the past decade and prevention has not been neglected. It seems this change has been facilitated by the introduction of patients listed with a GP and the gate keeping system. However, the full implementation of the chosen primary care based model requires continued efforts [22]. It may be concluded that the Lithuanian health care system is still in the midst of transition. Changing attitudes and established positions takes time, but in the shorter run regulations and incentives, which are at odds with general reform aims can be harmonised. In medical education full attention can now be paid to improving continuing medical education of GPs. Results suggest different training needs of subgroups of GPs. Furthermore, the evidence suggesting that newly trained GPs are no forerunners in terms of comprehensiveness of service provision, is

a challenge to the residency programme. Other post-communist countries may learn from the results that capacity building in primary care deserves continued and differentiated attention. Continuing education should GPs' different professional backgrounds take into account. Finally, further development of primary care should also be based on people's experiences and desires.

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